Industrial Standardization

and Commercial Standards Monthly

July

National Defense Production Needs
Coordinated Standards
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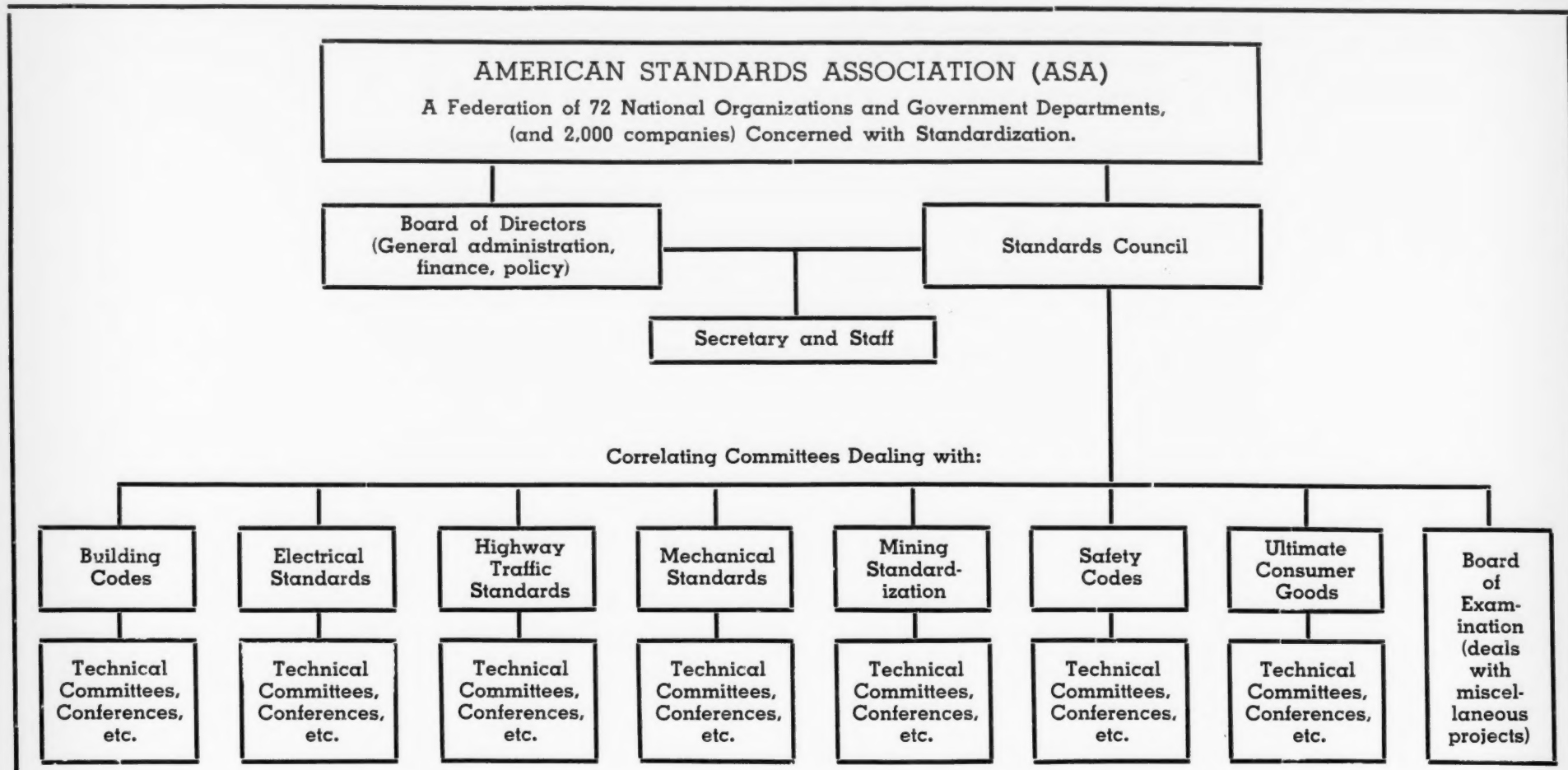

Work on standards is handled by committees or conferences on which all groups concerned are represented. Most of the committees work under the leadership (sponsorship) of one or more of the organizations chiefly concerned.

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Industrial
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RUTH E. MASON, *Editor*

Our Front Cover: **All-metal fuselages and wings for the Curtiss F-40 pursuit type fighting plane coming from the production line at the recently expanded Buffalo, New York, Curtiss-Wright factory. Courtesy Curtiss-Wright Corporation.**

This Issue

ASA

Standardization is dynamic, not static. It means not to stand still, but to move forward together.

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National Defense Production Needs Coordinated Standards

ASA mechanical committees show progress on national standards projects

by

Alfred Iddles[1]

Chairman, ASA Mechanical Standards Committee

THE American Standards Association was set up immediately after the last War as a result of the confusion, waste, and lost motion due to lack of coordinated national standards which so badly hampered American efforts in producing military and naval equipment.

The long experience which the ASA now has in coordinating standardization work and the contacts which it has made through this long experience make it easy to secure the cooperation of those groups which must work together to produce standards, specifications, and methods of test. Such standards are absolutely essential if production for the present national emergency program is to have that degree of coordination which will enable it to go forward smoothly and efficiently.

The projects under the jurisdiction of the ASA Mechanical Standards Committee, particularly, include problems which may lead to "bottlenecks" if sound standards are not available. From the annual reports of these committees, being presented this month to the American Standards Association, I have selected some projects of immediate importance. The following summary shows how these projects are progressing and, it is hoped, may bring suggestions for speeding the program and making the work increasingly useful both to Government and industry.

Screw Threads (B1) *(one standard completed)*—A special subcommittee is now conduct-

[1]Babcock and Wilcox Company, New York.

Experience in industry has shown that standards are indispensable tools of efficiency. Basic standards—those which establish the units of dimension, capacity, weight, and the like—are so necessary that once adopted they are almost taken for granted. Additional benefits are obtainable by the adoption of standards in practically every line in which the relationship of producer and consumer is involved.

The larger and more complex the enterprise, the greater is the necessity for sound and rational standardization. The immense task which now confronts American industry emphasizes the important role which standards play in any nation-wide undertaking.

Standards, to be fully effective, must be national in scope, acceptable to government as well as to the producers of raw materials and manufacturers of parts and finished products. Numerous and widely distributed production lines, contributing to a common end, obviously cannot be governed by local specifications if confusion, waste, and delay are to be avoided.

It is gratifying to note from Mr. Iddles' report that substantial progress is being made toward the adoption of additional national standards in the vitally important field of mechanical goods. Strategically and commercially, we need every increment of efficiency that industry can provide by standardization. — *R. E. Zimmerman, Vice-President, American Standards Association; Vice-President, U. S. Steel Corporation.*

ing a series of tests at Massachusetts Institute of Technology to determine what revisions should be made in the tolerances allowed in the present American Standard for Screw Threads for Bolts, Nuts and Threaded Parts (B1.1-1935) and the effect of other elements than pitch diameter on the functional quality of these products. The experience of manufacturers and users with these screw thread tolerances is also being studied, as the result of a questionnaire distributed by the committee in February of this year.

A new proposed American Standard for Acme Screw Threads has been completed and is being sent to the ASA sectional committee for its final vote.

It is expected that a draft of proposed specifications for gaging screw threads will be ready soon for consideration by the subcommittee on Screw Thread Gages and Inspection.

Pipe Threads (B2) *(one standard completed, under revision)*—During the past year this committee has made strenuous efforts to complete the proposed revision of the American Standard for Pipe Threads, originally approved and published in 1919. A proposal by the American Petroleum Institute for an increase in the truncation of the thread form of the present American Standard was given serious study by a special subcommittee. A draft revision of the American Standard for Pipe Threads, prepared by this subcommittee, is being completed for consideration by the ASA committee.

Allowances and Tolerances for Limit Gages (B4) *(one standard completed, under revision)*—A report of the Committee on Fits of the International Standards Association is being considered as a possible basis for a revision of the American Standard for Tolerances, Allowances, and Gages for Metal Fits (B4a-1925), as the ASA committee agreed at its meeting in December, 1939. Funds have been collected from industry to cover the cost of duplicating an English translation and conversion into inch diameters of the report which will be distributed soon to all members of ASA committee B4.

Small Tools and Machine Tool Elements (B5) *(13 standards completed)*—This committee held its annual meeting in Philadelphia December 5 to receive reports from its 23 technical subcommittees, and to consider possible revisions in the 13 standards already approved as the result of its work. The reports showed the following action now going forward:

T-Slots (Technical Committee 1)—Suggestions for changes in the American Standard for T-Slots, Their Bolts, Nuts, Tongues, and Cutters (B5a-1927) have been received recently and a letter ballot on these changes will be sent to the committee soon.

Tool Posts and Tool Shanks (Technical Committee 2)—A list of tool lengths is being set up as a preferred number series as a basis for a revision to simplify the list of sizes in the American Standard for Tool Holder Shanks and Tool Post Openings (B5b-1929).

Machine Tapers (Technical Committee 3)—A proposed American Standard for Steep Tapers was completed by the technical committee during the past year and will be sent to the ASA committee soon. This proposed standard covers a complete range of twelve tapers which have been approved by industry.

The Mechanical Standards Committee, of which Mr. Iddles is chairman, coordinates the work of ASA committees on mechanical standards projects. Members of the committee are national organizations especially concerned with problems in the mechanical field:

- Association of American Railroads, Mechanical Division
- American Foundrymen's Association
- American Gear Manufacturers Association
- American Institute of Bolt, Nut and Rivet Manufacturers
- American Iron and Steel Institute
- American Society of Mechanical Engineers
- American Society of Tool Engineers
- American Society for Testing Materials
- American Transit Association
- Electric Light and Power Group
- Grinding Wheel Manufacturers Association
- Heating, Piping and Air Conditioning Contractors National Association
- Manufacturers Standardization Society of the Valve and Fittings Industry
- National Electrical Manufacturers Association
- National Machine Tool Builders' Association
- Society of Automotive Engineers
- Telephone Group
- National Bureau of Standards, U. S. Department of Commerce
- U. S. Navy Department
- U. S. War Department

The War and Navy Departments are both taking an active part in the general standardization program of the ASA, with representatives on ASA technical committees, the Electrical Standards Committee, and on the Standards Council as well as on the Mechanical Standards Committee. The War Department is represented on 38, and the Navy Department on 56, ASA technical committees.

Revisions to the American Standard for Self-Holding Machine Tapers (B5.10-1937) are being studied. Recommendations are now being considered by the interested machine manufacturers and will be sent to the ASA committee as soon as comments are received from them.

Twist Drill Sizes (Technical Committee 7)—A proposed American Standard for Twist Drills is now before the American Standards Association for approval. This standard has been given serious consideration. A draft which had been approved unanimously by both the drill manufacturers and Technical Committee 7 was approved by the ASA committee in November, 1939. Recommendations for change made by the Metal Cutting Tool Institute and other members of the committee brought the standard again before the committee, however, and a revised draft was then unanimously approved by those present at the committee meeting in December. The standard is now being considered by the American Standards Association for final approval.

Jig Bushings (Technical Committee 8)—A second darft of a proposed revision of the American Standard for Jig Bushings has been completed and is now being considered by the ASA committee.

Punch Press Tools (Technical Committee 9)—Terminology and definitions have been added in a draft of a proposed American Standard for Punch and Die Sets. Additional changes in the proposed standard are needed to bring it into line with current practice, the ASA committee found at its meeting in December, 1939. Consequently, the technical committee is now working on a revision of its proposal.

Forming Tools and Holders (Technical Committee 10)—A revision of the American Standard for Circular and Dovetail Forming Tool Blanks (B5.7-1936) containing new data on holders will be considered by the ASA committee soon. The revised standard will be known as proposed American Standard for Circular and Dovetailed Forming Tool Blanks and Associate Mounting and Clamping Elements for Holders.

Copies of a proposed American Standard for Straight Blade Cut-Off Tools have been mailed to the members of the technical committee for approval.

Cut and Ground Thread Taps (Technical Committee 12)—A revision of the American Standard for Taps—Cut and Ground Threads, originally published in 1930, was approved by the ASA in November, 1939.

Splines and Splined Shafts (Technical Committee 13)—A new American Standard for Involute Splines (B5.15-1939) was completed during the past year and approved by the ASA in November, 1939.

Our Front Cover

Standards can and will play an important role in speeding up production in emergency, Colonel Wm. C. Young said in an address before the Annual Meeting of the American Society for Testing Materials, June 25. (See our August issue.)

Our cover picture shows, coming from the production line, rows of all-metal fuselages and wings for the new, fast, heavily armed Curtiss F-40 pursuit type of fighting plane now being purchased in quantity by the U. S. Government. This picture, taken at its Buffalo, New York, factory, is used through the courtesy of the Curtiss-Wright Corporation.

Multiple Spindle Drilling Heads (Technical Committee 18)—This committee was disbanded by the sectional committee at its meeting in December, 1939. There had been no activity on the subject since approval of the American Standard for Adjustable Adapters in 1937.

Single-Point Cutting Tools (Technical Committee 19)—A new American Standard Terminology and Definitions for Single-Point Cutting Tools was approved and published early in 1939.

Reamers (Technical Committee 20) — Comments received from industry on a proposed American Standard for Reamers are being used as a basis for a new draft standard now being prepared. When the revised draft has been approved by the technical committee it will be submitted to the ASA committee.

Tool Life Tests for Single-Point Tools (Technical Committee 21)—Following a request from the Westinghouse Electric and Manufacturing Company and recognition of the evident need for such standards, the ASA committee has organized a new technical committee to establish a method of testing single-point tools. The tests will be designed to determine such factors as the design of the tool, clearance and rake angles, tool life, efficiency of the steel, heat treatment, and machineability.

Gears (B6) *(two standards approved)*—Three standards of the American Gear Manufacturers Association were acted upon by this committee during the past year. On the recommendation of a special subcommittee, the Recommended Practice for Industrial Spur Gearing Backlash of the American Gear Manufacturers Association was recommended by the ASA committee to the sponsor organizations for this project, and presented by them to the American Standards Asso-

ciation for approval. The ASA approved the standard as American Recommended Practice in March of this year.

Another standard of the American Gear Manufacturers Association, the Approved Standard for Non-Metallic Spur Gear Formulas, was returned to the AGMA by the ASA committee with suggestions for changes recommended by the committee.

The third standard, AGMA Standard for Keyways for Holes in Gears, has been approved by the committee and the sponsors and is now before the American Standards Association for approval.

Pipe Flanges and Fittings (B16) *(10 standards approved)*—This committee, through several of its subcommittees, has been particularly active during the past year. The following progress has been made on new projects and on revisions of existing standards:

Cast-Iron Pipe Flanges and Flanged Fittings, 250 lb—A proposed revision to this standard, originally approved in 1928, is now being considered by the Manufacturers Standardization Society of the Valve and Fittings Industry; the American Society of Mechanical Engineers; and the Heating, Piping and Air Conditioning Contractors National Association, sponsors for the project.

Malleable-Iron Screwed Fittings, 150 lb—A revision of this standard was approved in July, 1939.

Cast-Iron Screwed Fittings, 125 and 250 lb—A proposed revision of this standard which was originally published in 1927 is now being completed by the subcommittee and is expected to be submitted soon to the sectional committee.

Cast-Iron Screwed Drainage Fittings—Work is now going forward on an entirely new proposed American Standard for Cast-Iron Screwed Drainage Fittings, based on a specification of the Manufacturers Standardization Society of the Valve and Fittings Industry. It is hoped that agreement will be reached soon on a final draft which can be submitted to the sectional committee for approval.

Butt-Welding Fittings—Comments and criticisms received from industry as the result of distribution of the proposed American Standard for Butt-Welding Fittings have been used in preparing a new draft of the proposed standard. This draft is now being considered by the subcommittee. Work has also been started on a new proposed American Standard for socket welding fittings.

Bolt, Nut, and Rivet Proportions (B18) *(nine standards approved)*—This committee made good progress during the past year by completing work on proposed revisions of the American Standard for Wrench-Head Bolts and Nuts and Wrench Openings (B18.2-1933) and the American Standard for Round Unslotted Head Bolts (B18e-1928). The revision of the latter standard was approved by the American Standards Association in November, 1939.

A final draft of the proposed new edition of the American Standard for Wrench-Head Bolts and Nuts and Wrench Openings has now been completed and the final draft is before the sectional committee for letter ballot vote.

Copies of a final draft of a proposed Addendum to the American Standard for Slotted Head Proportions (B18c-1930) have been distributed to interested firms and individuals in industry for criticism and comment. The subcommittee is reviewing the replies received to this questionnaire and will prepare a revised draft incorporating the important suggestions.

Plain and Lock Washers (B27)—The work of this sectional committee has been delayed during the past two and one-half years following the death of its chairman in September, 1937. A new chairman was elected in September, 1939, and additions to the personnel of the sectional committee are now being made to secure better balance among consumers, producers, and the general interest group. When this reorganization is completed, it is planned that the committee will again take up the development of the proposed American Standard for Plain Washers and the proposed American Standard for Lock Washers.

Code for Pressure Piping (B31) *(standard completed, under revision)*—Completed drafts of revisions of various sections of this Code were turned over to the Subcommittee on Plan, Scope, and Editing on May 1, 1940, to be incorporated in a revised draft of the entire Code. When the editing process is finished the revised code will be submitted to the members of the sectional committee for vote on approval.

Wire and Sheet Metal Gages (B32)—The ASA Committee for this project was reorganized in April, 1938. The reorganized committee met November 3, 1939, and appointed a subcommittee to study the problems and prepare recommendations for the committee. The subcommittee's recommendations are now being prepared for distribution to industry for criticism and comment.

Stock Sizes, Shapes, and Lengths for Iron and Steel Bars (B41)—During the past year this committee has completed a draft of a proposed American Standard covering dimensions and tolerances for hot and cold finished carbon steel bars for flats, squares, rounds, hexagons, ovals, half-ovals, half-rounds, and other shapes. The next step will be to distribute the proposals to industry for criticism and comment.

Leather Belting (B42)—This committee recently completed a draft of a proposed American Standard covering specifications and horsepower ratings for vegetable tanned flat leather belting based on revised specifications developed by the American Leather Belting Association. Copies of the proposal will be distributed to industry for criticism and comment.

Machine Pins (B43) — Circumstances and press of other duties have prevented the American Society of Mechanical Engineers, as sponsor for this project, from carrying through its plan of making one more attempt to break the deadlock between the users and manufacturers in regard to the draft standard now before this committee, the ASME reports. It is hoped, however, that a revival of this committee's activity may be accomplished through the inclusion in the proposed standard of not only the dimensions of the pins and their limits, but also the appropriate standard sizes of drills, the ASME declares.

Surface Qualities (B46)—A revised draft of a proposed American Standard for Surface Roughness was completed in March, 1940, and more than 6,500 copies have been printed for use by industry over a trial period of two years. Comments received as a result of the two years trial use will be considered in preparing the final Standard.

New work is being undertaken by this committee and a subcommittee has been appointed to develop standards for surface appearance.

Unification of Rules for the Dimensioning of Furnaces for Burning Solid Fuel (B50)—A field survey has been made by this committee to secure information on combustion space and setting heights for boilers and furnaces in which underfeed stokers are installed for the combustion of bituminous coal. The results of this survey and an experimental study carried on for the committee at Battelle Memorial Institute, Columbus, are being studied before a draft standard is prepared.

Graphic Presentation (Z15) *(2 standards completed)*—A draft standard for Engineering and Scientific Graphs for Publication is now being circulated to scientific and technical organizations and individuals interested, and comments will be used in preparing the final standard.

Speeds of Machinery (Z18)—The redrafting of a proposed American Standard for Machine Speeds, based on replies received following distribution of an earlier proposal, is still in the hands of an editing committee.

The American Standards Association is indebted to those organizations which are sponsoring the work of these committees, and to the individuals who helped make the reports available. We are especially indebted to C. B. lePage, American Society of Mechanical Engineers, who personally prepared most of the reports.

Propose Book of Standards For Cosmetics Industry

A "U. S. Cosmeticopoeia" should be established as an official book of standards for the cosmetics industry along the lines of the U. S. Pharmacopoeia, official book of standards for the drug industry, Steve Mayham, director of the Board of Standards of the Toilet Goods Association, told the Association at its fifth annual convention in New York, May 14-16.

Mr. Mayham announced the organization of a "practical-minded" Scientific Advisory Committee for the industry to deal with raw material standards. Several speakers pointed to the fact that advertising or label copy approved by the Association's Board of Standards (which reviews such copy for members when requested to do so) has never been subject to enforcement action by either the Food and Drug Administration or the Federal Trade Commission, *Business Week* reports.

Society of Automotive Engineers Sets Up Defense Committee

A National Defense Committee has been set up by the Society of Automotive Engineers to coordinate widespread activities already undertaken by the Society in connection with preparedness and to expedite services in response to new demands for assistance from military and governmental agencies, the SAE announced after its Annual Meeting, June 9-14. B. B. Bachman, vice president of engineering, Autocar Co., and a Past President of the Society, has been named chairman of the new group. Additional members of the Committee selected by Mr. Bachman to date are John H. Hunt, General Motors Corp., chairman of the SAE Standards Committee; George W. Lewis, National Advisory Committee for Aeronautics, SAE Research Committee Chairman; and Col. H. W. Alden, Timken-Detroit Axle Co., chairman of the SAE Ordnance Advisory Committee. Other members may be added later.

How British Standards Institution Takes Part in British Defense

The British Standards Institution is taking an active part in the Government's defense program. Through its Director, C. leMaistre, the Institution is represented on a committee which is, in effect, a Cabinet Committee of Production. This representation makes the services of the Institution directly available to all the Government Departments.

In addition to its work on this general Government committee, the Institution is preparing aircraft material specifications, and has been asked by the Government Service Departments to coordinate specifications for steel and non-ferrous materials to facilitate supply. The preparation of standards for metal containers for the various industries to provide for the economic use of materials and machinery is nearly completed, the Institution reports. It has also issued some 45 specifications in connection with air raid precautions for the Ministry of Home Security.

The Institution is also helping various committees which are dealing with priority materials to determine the most appropriate specifications for use under present conditions.

A Distributive Trades Industry Committee has been organized as one of the BSI general committees and will deal with standards for commodities.

British Standard specifications already in existence are being reviewed, and where necessary modifications are being made to make them appropriate for use in wartime.

"The chief point is," the BSI reports, "that the Government have recognized that the standards body provides an effective coordinating instrument, and can render great service in that capacity."

New Device Aids in Testing Snag Resistance of Stockings

A device for testing the resistance of stockings to snagging has been developed at the National Bureau of Standards by E. Max Schenke and Howard E. Shearer, research associates for the National Association of Hosiery Manufacturers.

The device is helpful to manufacturers in determining and controlling the factors which are of importance in manufacturing stockings as resistant to snagging as possible, and it is also a valuable adjunct in testing laboratories. A Public Service Patent for the device, which will make it available to everyone without payment of royalties, has been applied for.

The procedure developed for using this new testing apparatus yields data by which snags may be classified. Also, calculations on the expectancy of snags may be made. Such data may be used to indicate the snag resistance of the stockings tested.

The testing procedure is outlined in the National Bureau of Standards Letter Circular, LC-588, which may be obtained free of charge from the National Bureau of Standards, Washington, D. C. The testing device is discussed in National Bureau of Standards Circular C422 "Methods of Testing Hosiery." This Circular can be obtained from the Superintendent of Documents, Washington, D. C., for 15 cents each.

ICC Extends Regulations To Private Trucks

The Interstate Commerce Commission has decided that "private carriers" of property, operating motor vehicles interstate, will be subject to Federal regulations prescribng standards of equipment and qualifications and maximum hours of service of drivers, with certain exceptions, from and after August 1, 1940.

With certain exceptions all private motor truck owners are ordered to comply with the Commission's Safety and Hours of Service Regulations now in effect for common and contract carriers.

With respect to the operation of farm trucks, the maximum hours of service regulations are modified as to the 21-year age rule, medical examination, transportation of passengers, weekly maximum hours on duty, and driver's log.

Driver salesmen are covered by the regulations. The hours of service regulation is modified to provide that no maximum on-duty time regulation shall apply to driver salesmen who spend more than 50 per cent of their time in selling, and that if a driver salesman is permitted to be on duty more than 60 hours per week his actual driving time should be curtailed to a total of 50 hours in a period of 168 consecutive hours.

Drivers of "work trucks," used principally by public utility companies, will not be required to maintain a driver's log.

Walter S. Paine
Chairman

Sherman Studio

W. R. Smith
Vice-Chairman

Safety Code Correlating Committee Elects Paine Chairman, Smith Vice Chairman

Walter S. Paine, manager of the Engineering and Inspection Department, Aetna Casualty & Surety Company, Hartford, Connecticut, and representative of the National Conservation Bureau on the ASA Safety Code Correlating Committee, was elected new chairman of the Committee at its meeting May 28. W. R. Smith, safety engineer of the Public Service Electric and Gas Company, Newark, New Jersey, was elected vice-chairman. Cyril Ainsworth, assistant secretary, American Standards Association, was re-elected secretary of the Committee.

Mr. Paine succeeds L. F. Adams, National Electrical Manufacturers Association, who has served as chairman for the past three years and has been a member of the Committee since 1928. Mr. Smith succeeds Mr. Paine, who has been serving as vice-chairman of the Committee for the past year.

Mr. Paine has been with the Aetna Casualty & Surety Company since 1915. He is the author of a Handbook of Industrial Safety Standards and several articles on accident prevention.

Mr. Smith has been associated with the engineering and construction work of the Public Service Corporation of New Jersey for more than 25 years. He is chairman of the Accident Prevention Committee of the Edison Electric Institute and represents the Electric Light and Power Group on the Safety Code Correlating Committee. He is also a member of the Committee on Safety of the American Institute of Electrical Engineers, and chairman of the National Committee on Co-operation with Engineering Societies of the American Society of Safety Engineers—Engineering Section, National Safety Council.

New members of the Executive Committee of the Safety Code Correlating Committee are:

J. P. Craugh, Board of Standards and Appeals, New York Department of Labor, Albany, N. Y., representing the International Association of Industrial Accident Boards and Commissions . . .

C. E. Pettibone, vice-president, American Mutual Liability Insurance Company, Boston, Massachusetts, representing the National Association of Mutual Casualty Companies

H. L. Miner, E. I. duPont de Nemours & Company, Wilmington, Delaware, representing the National Fire Protection Association

L. F. Adams, General Electric Company, Schenectady, New York, representing the National Electrical Manufacturers Association

W. T. Cameron, chief safety adviser, Division of Labor Standards, United States Department of Labor, representing the Division of Labor Standards

The Safety Code Correlating Committee is the general committee supervising the safety code program of the American Standards Association. It correlates work on safety requirements in many different fields.

Conference on Weights and Measures Proposes Container Size Standards

Re-elects Briggs president; recommends three bills for standard containers be introduced to Congress

THE Thirtieth National Conference on Weights and Measures, which met June 4 to 7, urged as the keynote of its sessions the adoption of uniform laws and regulations throughout the country, so that weighing and measuring equipment which is acceptable in one jurisdiction will be equally acceptable in every other. Dr. Lyman J. Briggs, president of the conference, called upon every weights and measures official to do all in his power to secure this uniformity.

One of the important subjects considered by the conference was the report of its Committee on Standardization of Packaged Goods, which recommended the adoption of three bills:—one to fix standards of capacity for foods sold in dry state in containers; the second to fix standards of dimension and capacity for containers for edible oils, syrups, honey, and molasses, and to establish a Board of Standardization to prescribe tolerances and approve additional containers of standard capacities for these products when necessary; and the third to fix standards of capacities and dimensions for metal containers as well as other containers for fruits and vegetables and fruit and vegetable juices. Only foods in interstate commerce would be affected by the provisions of these bills.

The committee reported that as a result of the instructions it had received last year at the 29th National Conference, it had discussed the problem of package standardization with members of the industries and that a great deal has already been accomplished by voluntary agreement.

Three Bills Proposed

The first bill proposed by the Standardization Committee would include almost all the dry staple food products now packed in containers of any description, except spices and condiments. This means, in effect, that these products whether packed in the customary cardboard or paper package or in glass or metal containers must be of the prescribed standard capacity weights of one-eighth pound, one-quarter pound, one-half pound, three-quarters of a pound, one pound, one and one-half pound, and multiples of a pound. Candy, which may be sold by numerical count when sold in units of twelve or less, is the one exception. The proposed bill places enforcement in the U. S. Department of Agriculture.

The second bill, on edible oils, syrups, honey, and molasses, provides that the standard containers must be on the basis of liquid measure except when the quantity exceeds five gallons, when these products may be sold by net weight.

The third bill is concerned with packing of fruit and vegetable juices and fruits and vegetables in containers. Here the committee found after a thorough study of the subject that it must treat containers for juices and for fruits and vegetables separately. Standardization of containers for fruit and vegetable juices is possible because a liquid quart of tomato juice, for instance, will have the same cubic capacity or volume as a quart of pineapple juice, but this is not necessarily true of the fruits and vegetables themselves. Under the proposed bill, fruit and vegetable juices in containers of any description must be packed only in the following standard fluid capacities: 8 ounces, 12 ounces, 1 pint, 1½ pint, 1 quart, ½ gallon, 3 quarts, 1 gallon, and multiples of the gallon. An exception is made in the case of the 6 fluid ounce container with the restriction that it be used exclusively for consumption on the premises.

The Standardization Committee reported that its study of the metal containers for fruit and vegetable juices showed that odd sizes or capacities are now in general use. For example, containers of 12½ ounces, 14 ounces, 18 ounces, 20 ounces, 46 ounces, 50 ounces, 94 ounces, etc. are being used for fruit and vegetable juices. These odd sizes have been eliminated in the proposed

bill, although the sizes which are recommended have been chosen from among the list of sizes now in use.

Another important provision prohibits containers prescribed for fruit and vegetable juices being used for fruits and vegetables, except where specifically allowed under other provisions of the bill.

Find Difficult Situation

An interesting situation was discovered by the Standardization Committee when it looked into the problem of standardizing fruits and vegetables in metal containers. The committee had planned to standardize by specifying the standard capacity weights in which these products could be packed, but before preparing its recommendations it made an intensive study to determine the reasons for the great number of sizes now in use. The study showed that the type of standardization the committee had in mind was impractical. It found that the metal containers used for these products are in reality small boilers in which the fruit or vegetable is cooked at extremely high temperatures and pressures. In its original form each fruit and vegetable has its own specific gravity, and when prepared with various seasonings or syrups it has still other specific gravities. As the specific gravity changes or varies, so will the dimensions of the can, if it is to contain a given weight. Hence, any attempt to standardize by weight would result in the use of several hundred containers varying by as little as one-sixteenth of an inch in height. This would be true even if the diameters of the cans were fixed. The committee found, however, that the list of recommended sizes submitted by the canners to the industry as contained in the revised Simplified Practice Recommendation R155-40[1], although a step in the right direction, still provides too many sizes.

Finds Many Sizes Unneeded

The committee finally came to several definite conclusions:

1. More than 80 per cent of all fruits and vegetables are packed today in eight general sizes; these are, 211 by 303, 211 by 400, 300 by 407, 301 by 411, 303 by 406, 307 by 409, 401 by 411, and 603 by 700. (A size designated by the industry as 211 by 303 means two and eleven-sixteenths inches in diameter by three and three-sixteenths inches in height.)

2. Thirty-two other sizes are in use for the packing of so-called "special packs." Certain commodities because of their inherent physical characteristics are being packed in these special sizes; for example, pimentos, asparagus, pineapple, and baby foods. Some of these special commodities are also packed in one or more of the general sizes described above.

3. The cubic capacities of some of the general and special sizes vary as little as three-tenths of one cubic inch and the diameter or height as little as one-sixteenth of an inch.

4. A comparative study of the general and special sizes disclosed that many of the special packs could be readily packed in one of the general sizes. Also, three of the general sizes (300 by 407, 301 by 411, and 303 by 406) vary so little in their cubic capacities and in their dimensions as to encourage deception and misrepresentation.

5. Twenty of the 32 special sizes are used for a single fruit or vegetable.

Eliminate Special Sizes

As a result of these findings the committee eliminated many of the special sizes now in use for individual fruits and vegetables and set up a classification of general sizes which could be used for all of these products. Nine special sizes were eliminated from those recommended in the Simplified Practice Recommendation by substituting a general size, and seven more special sizes were eliminated by suggesting that the product be packed in one of the special sizes that remained. The Simplified Practice Recommendation included 32 special sizes and eight general sizes. The proposed bill suggests 16 special sizes and seven general sizes, or an elimination of 16 special and one general size.

On the suggestion of representatives of the industry, the proposed bill also sets up a Board of Standardization. This Board would have authority to make necessary changes in dimensions of metal containers due, for example, to new methods of manufacture, processing, or packing. It is proposed that the Board shall include a representative of the industry, of the Conference on Weights and Measures, and a consumer representative. The proposed bill provides that enforcement shall be by the Department of Agriculture.

All three bills were referred by the Conference to its Committee on Legislation, which studied them, and reported to the Conference that it approves the purpose and intent of the proposed legislation and recommends that all three bills be introduced to the Congress of the United States.

Two bills on weights and measures already introduced to the Congress were studied by the

[1]See article on page 174 "Simplified Practice Recommendation Suggests New List of Can Sizes for Fruits, Vegetables."

Committee on Legislation. The committee reported to the Conference that although it favors legislation to standardize and reduce the number of containers for canned fruits, vegetables, and canned milk, it does not recommend approval of H.R. 4402, as the committee does not consider that this bill will accomplish the purpose for which it was intended.

The committee does, however, recommend the approval of H.R. 5530, which is intended to reduce the number of sizes of containers, fix standards for cartons, crates, boxes, sacks, and other containers for fruits and vegetables, and consolidate existing laws on this subject, if two changes are made in the bill to remove certain objections to it. One of the committee's objections is that the provision for the one pound climax basket for mushrooms is inconsistent and impossible of being carried out with the provisions defining the dimensions of the basket. The second is that the provision permitting the use of irregular containers is inconsistent to the general purpose of the bill to standardize and diminish the number of containers.

Rollin E. Meek, chief of the State Bureau of Weights and Measures, Indianapolis, Indiana, is chairman of the Committee on Legislation of the National Conference on Weights and Measures. Alex Pisciotta, director of the Bureau of Weights and Measures, New York, is chairman of the Conference Committee on Standardization of Packaged Goods.

In all, 22 formal papers were presented during the Thirtieth National Conference on Weights and Measures, in addition to reports from five committees and from State delegates and representatives of State associations of weights and measures officials.

At the closing session June 7, the following officers were elected for the coming year: President, Dr. Lyman J. Briggs, Director of the National Bureau of Standards; Vice-Presidents: H. N. Davis, Vermont; A. J. Jensen, North Dakota; Carl Klocker, Connecticut; J. G. Rogers, New Jersey; Louis G. Wadman, St. Louis, Mo.; Thomas Webb, Nashville, Tenn.; Secretary, Ralph W. Smith, National Bureau of Standards; Treasurer, George F. Austin, Jr., Detroit, Mich.

Simplified Practice Recommendation Suggests New List of Can Sizes for Fruits, Vegetables

The list of can sizes for fruits and vegetables, proposed by the Committee on Simplification of Containers of the National Canners Association has been given the required degree of acceptance by can manufacturers, canners, distributors of canned food-products, and consumers, and is to become effective September 1, 1940, according to an announcement by the Division of Simplified Practice, National Bureau of Standards.

The list will be known as Simplified Practice Recommendation R155-40, Cans for Fruits and Vegetables. It is based on a survey made by the Committee on Simplification of Containers of the National Canners Association in collaboration with the Division of Simplified Practice, and identifies the cans which are to be used for each specific commodity. The cans are designated by diameter and height. In addition, the volume fill of each can, calculated in accordance with the regulation under the Federal food law, is shown in cubic inches and represents approximately 90 per cent of the capacity of the can.

Volume fill is defined as the minimum volume of food in the can after processing and cooling. In view of the fact that the prescribed volume fill must be attained under all conditions and methods of packing, the recommendation recognizes that some tolerance must be allowed in the dimensions of the can because of special methods of filling and because of technological problems. Consequently the height of any of the cans in the recommendation may be varied sufficiently to attain the prescribed volume fill.

In the recommendation there are 39 cylindrical-can sizes, and two square-can sizes, of specified dimensions. Of these, each of 19 are of special dimensions designated for use exclusively with a single commodity. The other 22 cans are recommended for use with from 2 to 57 different designated commodities. Certain of the can sizes are for use with each of the 25 classifications of fruits, and 33 classifications of vegetables. The adoption and general use of the recommended list of cans shows the following results for the 1939 pack: 90 per cent of the annual pack was in 18 can sizes; 88.8 per cent in 14 sizes; and 85 per cent in less than 10 sizes.

Printed booklets containing not only the recommendation itself, but also the history and development of the project, list of acceptors, and standing committee, will be made available, at nominal cost, at the office of the Superintendent of Documents, Government Printing Office, in the near future.

Standard Titles for Occupations Are Listed in New Dictionary

United States Employment Service prepares dictionary of 29,744 job titles

by

William H. Stead

Chief Executive Officer
Employment Service Division

THE publication of the Dictionary of Occupational Titles marks the completion of a major step in the Occupational Research Program conducted by the United States Employment Service. As a product of the Research Program, it is part of an effort designed to furnish public employment offices in this country with information and techniques that will facilitate proper classification and placement of work seekers.

Twenty-nine thousand seven hundred and forty-four job titles, which are applied to 17,452 different jobs in the farms, mines, factories, businesses, and homes of the United States, are defined in the Dictionary. The raw material from which the Dictionary of Occupational Titles was written was secured from nearly 55,000 job analysis schedules. Six thousand five hundred individual employers and business establishments cooperated in the preparation of these materials. Many labor unions, trade associations, and professional societies aided by checking the accuracy of the data.

Work was started on the Dictionary of Occupational Titles in February 1937. At that time a large number of job analysis schedules which contained valuable occupational information had been received in Washington.

The writing of the original job analysis schedules had been so planned and coordinated that whenever possible each job was observed in at least three different industrial or commercial establishments, usually in three different cities. Job definitions were then written, and after review were sent out to trade associations, unions, and other authorities on the industry to be verified as to their accuracy.

Some titles were found to be used for as many as a dozen jobs, frequently in as many different industries. The job title GATHERER, for instance, is applied in the garment industry to the operator of a special type of sewing machine; in the glass manufacturing industry, to the job of gathering molten glass on a blow pipe preparatory to glass blowing; and in the printing and publishing industry, to the job of setting up and tending a machine that gathers together signatures and forms book bodies for binding.

The next step in compiling the Dictionary was to divide and subdivide the definitions on a functional basis for the purpose of assigning occupational codes. In the course of this process, many a job was found to have been separately defined in a large number of industries, frequently under a variety of titles.

In the course of the above process, it was found that many jobs required identical experience, techniques, and abilities on the part of workers, and were performed under the same circumstances. A worker qualified for one of these jobs would be qualified for others of the same character as well, and often was found to transfer from one to the other. Bearing in mind the use to which the occupational classification would be put—to facilitate the classification and referral of applicants in public employment offices—all such jobs were placed together in the same job classification and were assigned the same identical code number. As a result, some of the classifications include as many as a hundred jobs, all requiring the same basic techniques and ability and performed under the same circumstances; other classifications contain only one job which appeared to require a unique combination of abilities and techniques.

At the same time that the job definitions were being written, members of the Employment Service were serving on an Occupational Classification Committee sponsored by the Central Statistical Board and the American Statistical Association. The committee evolved a standard occupational classification, which serves as a common denominator by means of which the occupational statistics of the various governmental agencies may be compared with each other. The occupational classifications created for use with the Dictionary definitions closely follows the standard occupational classification, with the result that the Employment Service occupational statistics will be comparable with those of other governmental agencies.

The Dictionary is composed of three parts—

Part I, "Definition of Titles"; Part II, "Group Arrangement of Occupational Titles and Codes"; and Part III, "Conversion Tables."[1]

Each definition is composed of four parts: First, the main job title in bold-face all capitals, followed by alternate or synonymous job titles in lower case, bold-face type. Second, the industrial designation or designations that identify the industry or type of work with which the job is associated. These industrial designations appear in parentheses. Third, the occupational code number used to symbolize the job in the classification structure, or else a reference to the title of the definition where the code number for the job may be found. Fourth, there appears the definition of the duties performed on the job.

Part II of the Dictionary, "Group Arrangement of Occupational Titles and Codes," contains all the job titles listed in groups according to their occupational code numbers. There are some 7,000 separate code numbers in all. Every digit in each code number indicates something of the nature of the occupation symbolized. The occupations in the Dictionary are first divided into broad groups or categories on the basis of their over-all nature. The occupations in each of these groups in turn are subdivided a number of times into progressively more limited groups of occupations. The first digits of the code numbers show the broad occupational groups; each successive digit shows progressively more limited groups, and thus closer occupational relationships.

Part III, "Conversion Tables," contains alphabetically and numerically arranged tables showing the possible equivalents among the new code numbers for the code numbers and job titles appearing in the old code book "Occupational Titles and Codes for Use in Public Employment Offices." This has significance only for temporary internal use in the employment offices.

While the Dictionary is prepared primarily for Employment Service use, other interests have not been entirely neglected. Beyond Employment Service use it was possible to guess that persons interested in labor and occupations, statistically and otherwise, as well as industrial personnel workers and vocational training and guidance people, would find use for the material, but a number of other interesting possibilities were suggested. For instance, a well-known librarian suggested the use of the Dictionary as the central reference in library collections of occupational information.

[1] A Department of Labor publication, available from the Superintendent of Documents, Washington, D. C. Part 1 $2.00; Part 2 $1.00; Part 3 $1.00.

Courtesy Westinghouse Electric & Mfg. Co.

Nelson to Head Defense Purchases; Lynah to Coordinate Specifications

COORDINATION of specifications is one of the first jobs to be provided for by Donald M. Nelson[1] in his new role of Coordinator of National Defense Purchases. Mr. Nelson, who was appointed Coordinator by order of the National Defense Commission early in July, has just named James Lynah to head his Division of Specifications, and to coordinate specifications for the national defense program. Mr. Lynah was formerly director of purchase for the General Motors Corporation, and it was under his direction that that Corporation started its company-wide standardization program.

The new Office for Coordination of National Defense Purchases under Mr. Nelson's direction will work with the War and Navy Departments, the Procurement Division, the Advisory Commission, and other agencies, to secure harmonious adjustment of their needs and to supply those needs with maximum speed and efficiency. It is hoped in this way to minimize conflicts in the buying requirements of governmental agencies and to create liaison points for industrial contact.

The Order

The order establishing the Office reads, in part:

"The Office for Coordination of National Defense shall, in cooperation with the Advisory Commission:

"(1) establish and maintain liaison between the Advisory Commission, the several departments and establishments of the Government and with such other agencies, public or private, as the Coordinator may deem necessary or desirable to insure proper coordination of, and economy and efficiency in, purchases by the Government of supplies, equipment, munitions, and other material requirements essential to the national defense;

"(2) determine the most economical and effective methods of purchase of repetitive items common to several agencies and to assign the purchase function to the agency or agencies best qualified to perform it, provided that the War and Navy Departments shall have authority for making purchases necessary for the national defense, subject to such coordination as may be required to establish priorities;

"(3) collect, compile, and keep current statistics on purchases made by Federal agencies;

"(4) coordinate the research in procurement specifications and standardization now conducted by the different Federal agencies;

"(5) determine and keep current combined immediate material requirements of all Federal agencies, and estimate future requirements so as to facilitate purchases and to cushion the impact of such orders on the National economy;

"(6) review existing laws and recommend to the President such new legislation and simplification of existing legislation as may be necessary to make Government purchasing more efficient and effective;

"(7) investigate the necessity for and make recommendations to the President relative to the granting of priority to orders for material essential to the national defense over deliveries for private account or for export.

"Donald M. Nelson is hereby appointed Coordinator of National Defense Purchases."

[1]Executive vice-president, Sears Roebuck & Company, Chicago.

Fund Urges More Data On Consumer Goods

The Twentieth Century Fund believes that there should be an increase in and a better coordination of government agencies to provide information about qualities, standards and grades of goods which would enable consumers to get better value for their money, according to a pamphlet, *59¢ of Your $1*, published by the Public Affairs Committee, New York. The pamphlet summarizes the Twentieth Century Fund's study of the costs of distribution.

Modern living habits account for many of the increased costs of distribution in modern economic society, the pamplet declares. Today's housewife is not content to buy in bulk as her grandmother did. She "wants small packages for her kitchen shelf. She wants fresh goods; she wants branded goods; she wants them in sanitary packages; and, above all, she wants them easily available."

Along the line of better standards and grades, the Fund Committee suggests that there should be more opportunity to use the facilities of government and private agencies for testing and appraising consumer goods.

59¢ of Your $1 is the forty-fourth in a series of 10-cent pamphlets published by the Public Affairs Committee, 30 Rockefeller Plaza, New York.

Building Coordination Committee Program Needs Regular Staff

PERMANENT secretarial and engineering services are needed to carry to success the work of the ASA Committee on Coordination of Dimensions of Building Materials and Equipment (A62), the committee's Executive Committee declared in a resolution adopted at its meeting June 20. The resolution outlines the benefits expected from the work on the project, and the present situation as the Executive Committee sees it. It reads:

WHEREAS the coordination of dimensions of building materials and equipment, now under development in ASA Sectional Committee A62, would promote substantial economies in the art of building and would make possible various improvements in the methods of manufacturing building materials and equipment; and

WHEREAS this sectional committee provides a unique opportunity for broad voluntary cooperation of the industry to accomplish other useful and important results related to the problem of coordination; and

WHEREAS the progress of this Project has indicated that the benefits of the coordination of dimensions can be made available to the building industry; and

WHEREAS the secretarial and engineering service furnished by the Modular Service Association (the successor organization to Bemis Industries, Inc.) has been largely responsible for the progress the sectional committee has already made; and

WHEREAS this Project requires for its further development and successful completion an active and continuing secretarial and engineering service which shall be free from special commercial interest in the objectives of the Project; and

WHEREAS the funds contributed by Bemis Industries, Inc., to maintain this service for the sectional committee will be exhausted during the present year: Therefore be it

RESOLVED, That this Executive Committee hereby reaffirms its belief that the objectives of this Project should bring about fundamental improvements in social conditions by effecting permanent economies in the building industry; and

That it expresses its appreciation of the secretarial and engineering services already furnished by the Modular Service Association to Sectional Committee A62; and

That it endorses the proposal that financial support for continuing these services be obtained from non-commercial interests.

Special study committees have already been appointed by the committee and are working on the problem of how to coordinate building units, using the 4-inch size increment as a basis for standard sizes and dimensions for building parts which will interfit within the building structure. Five study committees are working on the problem of coordination between various types and combinations of masonry walls; and coordination of openings in masonry walls with doors and windows to fit in these openings. These committees are studying masonry made of structural clay products; wood doors and windows; masonry made of concrete and cast stone; metal windows; and natural stones.

Recommendation for Containers For Foods and Beverages

Elimination of containers too light in weight to give the consuming public adequate service is expected if the sizes listed in the recently accepted Simplified Practice Recommendation for Heavy-Duty, Round, Nesting Paper Food and Beverage Containers and Lids, R175-40, are generally adopted, the Division of Simplified Practice, National Bureau of Standards, announces. The Recommendation will be effective September 15.

The simplified list of recommended containers includes standard types, shapes, capacities, weight per 1000 containers (waxed and unwaxed), maximum depth of lid seat, and maximum bottom recess. Standard basis weight of paper for different types of lids is also given.

In addition to eliminating containers too light in weight, general adoption of the recommended sizes is expected to eliminate those that are excessively heavy beyond needed requirements. It is believed also that the designated standard-weights per 1000 containers which have been assigned to each container-size will prove useful.

Mimeographed copies are available from the Division of Simplified Practice, National Bureau of Standards, Washington, D. C.

ASA Acoustical Committee Proposes Study Of Vibration Measurement Standards

Subcommittees show progress in work on acoustical measurements and terminology standards

INCREASING speeds of machinery and a greater consciousness of the effect of noise and vibration in industry has brought a request to the ASA Committee on Acoustical Measurements and Terminology that it extend its work to include the preparation of standard methods of measuring vibration, standard vibration terminology, and vibration measuring instruments. The request was made at a meeting of the committee May 1. As a result of favorable action by the committee, steps are being taken to ask the American Standards Association to authorize the wider scope of work. The Acoustical Society of America is sponsoring the work on acoustical standards and is being asked to present the request to the ASA.

Progress by subcommittees working on standards for acoustical measurements and terminology was reported at the meeting.

"As I witness the effects of our efforts in industry and in technical literature, I feel very much encouraged with the accomplishments of the committee during the past eight years," Professor V. O. Knudsen, chairman, told the committee in a report presented by Harvey Fletcher, vice-chairman. "Definitions and terminology, approved as a result of the committee's work, have gained wide usage and have helped to remove inaccuracies and misunderstandings. Routine noise measurements are made in a great variety of situations with sound level meters and although all makes of meters do not yet give exactly the same readings for the same noises there is essential agreement in most cases," he said.

Reports of subcommittees presented at the meeting showed active progress in the work being done in their fields, as follows:

Terminology — This subcommittee has been taking measurements on radio broadcasts of musical selection to determine what reference pitch is actually being used in this country. These studies are being made in connection with the committee's work to help bring about the closest practical adherence to the international standard of musical pitch (440 cycles per second for A above middle C) which was recommended at a meeting of the International Standards Association in May 1939 as proposed by the ASA. This standard was approved by the ASA in 1936. Tests made so far indicate that broadcasts are invariably above the standard in an amount varying from 1 to 4 cycles per second, C. F. Wiebusch, Acoustical Society of America, chairman of the subcommittee, reported. Curves showing how frequency varies in broadcasts have been made as a result of preliminary measurements, but the work is not yet sufficiently conclusive to permit distribution of the data, he said.

Noise Measurement—The report of this subcommittee is included in the report of the Technical Committee on Sound Levels and Sound Level Meters, Harvey Fletcher, Acoustical Society of America, chairman, explained to the committee.

Sound Levels and Sound Level Meters—During the past year this committee has been considering the following problems:

1. The possibility of reducing tolerances in the overall response of sound level meters.

2. A proposal that the Test Code for Apparatus Noise Measurement of the American Institute of Electrical Engineers be recommended for approval by the ASA as an American Recommended Practice.

3. The possibility of developing secondary standards for relating the sound levels of different types of noise to loudness levels or to loudness.

Studies on the relation between loudness levels and sound levels for different types of noise have been continued.

A questionnaire concerning tolerances circulated by the committee has shown the following

results, and after careful consideration the committee has voted to go on record as being in agreement with them:

1. The tolerances in the overall frequency response of sound level meters should be left for the present as they are.

2. No special set of tolerances in the overall response of sound level meters below 1000 cycles should be set up.

3. Acoustic analyzers might well be considered suitable tools for special low-frequency noise problems.

4. Acoustic analyzers should not be standardized at present.

Work is now under way to modify the Test Code for Apparatus Noise Measurement, and it is expected that a modified edition of the code will be submitted for comments and recommendations soon.

Although the question of secondary standards for sound measurement has not received a great deal of consideration so far, R. G. McCurdy, of the Bell Telephone System, chairman of this subcommittee, reported, it is becoming increasingly clear that complexity of sound is an important factor in loudness. It is possible that at a later date agreement may be reached on corrections to be applied to sound level meter readings in order to produce approximate loudness levels for certain common types of noise, he said. This problem is being given more study in the light of new data and information on sound measurements.

Sound-Insulation and Sound-Absorption Measurements—This subcommittee is encouraging and extending its studies and experiments on acoustic impedance, and has named F. L. Hunt, Bell Telephone Laboratories, who represents the Acoustical Society of America, as the person to take the responsibility for coordinating the various phases of the work.

The committee is now working on proposed standards for measuring sound transmission. F. R. Watson, of the University of Illinois, chairman of the committee, reported that the work in preparing methods of sound transmission measurement is progressing faster than the work on sound absorption measurements.

Audiometry and Hearing Aids — A draft British Standard Specifications for Audiometers recently received through the ASA office has been studied and comments forwarded to the British Standards Institution, W. F. Snyder, Acoustical Society of America, chairman of the subcommittee, reported.

A resolution presented by the subcommittee was adopted by the sectional committee:

In view of a widespread demand on the part of users of hearing aids for standard batteries in such instruments, it is

RESOLVED, That the ASA Sectional Committee on Acoustical Measurements and Terminology request that the ASA Sectional Committee on Specifications for Dry Cells and Batteries set up standard specifications on size, shape, voltages, terminals, and terminal arrangement of batteries designed for use in hearing aids of both the carbon and vacuum tube types.

In addition to hearing the reports of the subcommittees, the ASA committee voted to recommend that the committee's scope be broadened to include standardization of vibration terminology, vibration instruments, and methods of vibration measurement. The need for such standards is increasing rapidly with decreasing mechanical tolerances, increasing speeds of machinery, and higher feeds on machine tools, with resulting increase in noise consciousness, discussion in the committee showed. The result has been considerable confusion among manufacturers of machinery and purchasers in regard to terminology and as to whether available instruments are capable of measuring the quantities necessary to accurately determine the vibration present, it was said. A steering committee of three is being appointed to arrange for the organization of the work on vibration.

New Recommendations For Softwood Lumber

A new edition of Simplified Practice Recommendation R16, Lumber, (American Lumber Standards for Softwood Lumber), has just been released.

This recommendation, which bears the index number R16-39, sets forth the classification, nomenclature, grading provisions, sizes, workings, description, measurement, tally, shipping, grade marking, and inspection provisions adopted by the lumber industry as the basis for individual grading rules covering the various species of softwood lumber.

In the new edition, the basic provisions are in general strengthened and clarified, those governing the selection and inspection of softwood lumber stress-grades are thoroughly revised in accordance with up-to-date information on the effect of quality on the strength of lumber. Sections on shingles and mouldings, published separately after 1933, are added in their proper place.

Printed copies are available from the Superintendent of Documents, Government Printing Office, Washington, D. C., at 20 cents each.

Diverse Local Standards Bar Free Trade in Many States

How standards help eliminate trade barriers was described by Dr. P. G. Agnew, secretary of the American Standards Association, in testimony before the Temporary National Economic Committee published in the April issue of INDUSTRIAL STANDARDIZATION.

We believe our Members will also be interested in this analysis of what still remains to be done in developing uniform national standards to replace present diverse local standards.

This article is an abstract from testimony submitted to the TNEC by A. H. Martin, Jr., executive director, Marketing Laws Survey of the Work Projects Administration, Federal Works Agency.

THE cumulative effect of the lack of uniformity in standardization requirements of various states may constitute, in itself, a serious hindrance to interstate trading. Moreover, such grading legislation may be used to place out-of-state products at a disadvantage by setting up requirements for the highest grade or grades which can be met only by produce raised within the state.

Standards are set for some 117 or more types of fresh fruits, vegetables, and nuts throughout the United States. The United States sets standards for 84 such types. California forbids the sale of some two dozen kinds of fruits and vegetables unless they meet rigid grades, classifications, and standardization requirements fixed by the state authority. Colorado has similar legislation affecting a dozen agricultural products; and Montana specifically controls almost that many. South Dakota has a rigid law for potatoes; Kansas, for apples.

Further trade barriers are erected by laws controlling inferior grades of products. Montana, for instance, requires all fruits and vegetables not conforming to Montana grades to be marked "Culls" or "Unclassified" before they can be sold in the State. California has enacted similar provisions. Although in some instances these measures are related to the "police" power, nevertheless, standards set unusually high prevent large classes of persons in the lower income brackets from buying such goods. These statutes, through operation and effect, tend to interfere with interstate commerce, especially when such laws prohibit the shipment of produce of inferior grades into a given state, but permit local producers within the same state to sell such inferior grades. When so used, these measures are strictly discriminatory in nature and become a device to close the markets of the state to outside producers.

Federal Government Also Active

Not only are standards and labelling requirements set out in statutes, but in 31 states the Director of Markets or a similar state official is empowered by law to establish the standards. In many such states the officers are authorized to promulgate rules and regulations without public hearing or notice before the grades or revisions of grades are established and become effective.

The Federal Government has also been active in the field of standards, but even when states accept such federal standards they do not always accept them *in toto* for all products, or all grades for any one product, but maintain special grades of their own in addition thereto. Montana went so far as to refuse to admit produce from neighboring states even when accompanied by Federal certificates, until it had made its own inspection.

Standard regulations of containers for fruits and vegetables are likewise in a state of confusion. The Federal Standard Barrel Act of 1912 and the Federal Standard Container Act of 1928 are based on the weights-and-measures power of Congress and therefore apply to intrastate as well as interstate transactions. As crates and boxes remain as yet undefined by Federal action there is, in this field, an amazing lack of uniformity.

SAID THE GEORGIA HEN TO THE FLORIDA HEN --

There are 15 different sizes of cantaloup crates and seven kinds of apple boxes. Oregon's standard berry boxes were declared illegal for the sale of berries within California.

A diversity of regulations with respect to the definitions of bushels exist in the several states. A bushel of onions is 50 pounds in Wisconsin, but it is 57 pounds in Idaho. A bushel of sweet potatoes is 50 pounds in Texas, but it is 56 pounds in Florida. A bushel of apples is 44 pounds in Maine, and 50 pounds in Minnesota. A bushel of greens (mustard, spinach, kale, turnip tops) varies from 10 pounds in North Carolina to 30 pounds in Alabama and Tennessee. The Pennsylvania and Ohio bushel laws as well as those in other states are also in conflict, because in some states the bushel is defined in terms of dry measure and in others in terms of weight.

A number of interesting statutes also exist in connection with the standardization and labelling of eggs. Seven states set a maximum grade which can be met only by domestic eggs. Georgia, Florida, and Arizona provide that "fresh eggs" are only those which have been laid within the State. Other states require that out-of-state eggs be labeled "foreign" or "shipped."

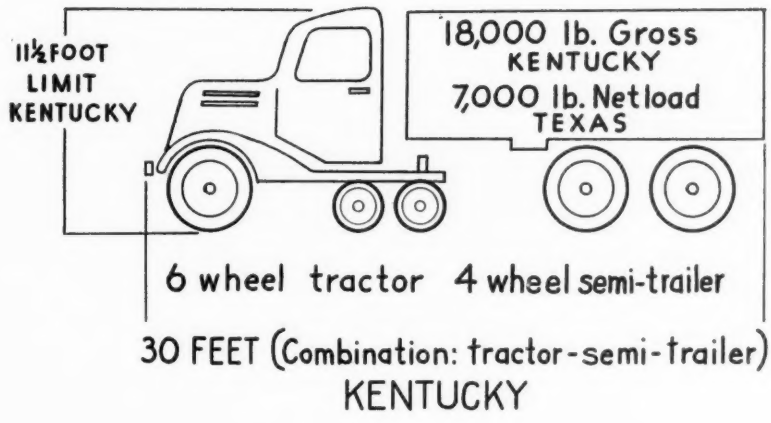
The trade barrier walls erected against the interstate shipment of commercial fertilizer are not of recent origin; the foundation was laid in the early years of this country. The purpose at the time of enactment of these acts was the prevention of fraud and the keeping of spurious products off the market. Today the lack of uniformity of state laws and the failure to accept state-of-origin inspection and analysis is a very serious impediment to interstate shipments of this product.

The seller (resident and nonresident) must submit samples of the product for state analysis, which product must conform to the standards established by the state, and secure a permit for the sale of his product. These standards are diverse and many. As an example, Louisiana sets up two grades, "high grade" and "standard," and establishes what the percentage of ingredients must be for the product to be classified as such and be so labeled. Any product not falling within one of these classes must be marked "low grade"; these words must be printed on the container in letters of not less than 2 inches. The neighboring state, Mississippi, does not establish grades for this product but merely requires submission of a certificate to the State Commissioner of Agriculture by the manufacturer setting out the ingredients and analysis prescribed by law. The diversity of tolerance allowance of any ingredient is likewise confusing, since these tolerances range from one-quarter of one per cent to five per cent.

Furthermore, the interstate shipper, after ascertaining all of the statutory requirements necessary before he can enter the market in a certain state, must also ascertain what must be done under the rules and regulations promulgated by the state officer whose department administers such statutory enactment. . . .

Motor Vehicles

In the field of motor vehicles the states, in the exercise of their "police" power, have imposed additional burdens upon commercial motor trucks operating in interstate commerce. Under the power they have subjected them to regulation by public service commissions. Aside from special license or certificate fees and special taxes collected by these agencies under the states' taxing power, are the requirements that such commercial motor carriers must post bonds and insurance, file rate schedules, and be subjected to general regulation by such commissions. Nearly all of the states impose one or more of such requirements upon commercial motor trucks. It is, however, the exercise of their power presumably to protect the public safety that has most often resulted in legislation burdensome and restrictive upon interstate trade. The trucker moving in interstate commerce finds himself faced with



myriad requirements, varying from state to state as to the maximum permissible width, length, height, weight, and equipment of his vehicle.

Although there is considerable uniformity among these state laws as to the maximum permissible width of trucks, there is still a great deal of variance as to height, length, and gross weight requirements.

For a *single vehicle* the maximum permissible length varies from 25½ feet in Kentucky to 50 feet in Vermont. Maryland, Nevada, and Rhode Island have no such provisions. The maximum permissible lengths for any *combination of vehicles* varies all the way from as low as 30 feet in Kentucky to 85 feet in Arizona, Georgia, and Rhode Island, while Massachusetts, Maryland, and Nevada impose no such statutory restrictions. In these latter states, however, the maximum weight restrictions operate to limit the length of the vehicle.

In Massachusetts, for example, the maximum gross weight permitted for a single six-wheel vehicle is 40,000 pounds. The trailer is limited to a 1,000-pound capacity.

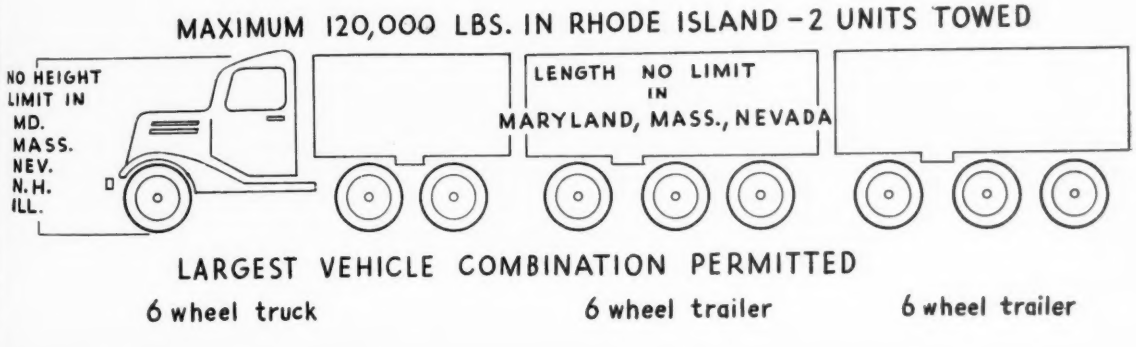
The restrictions on maximum weights indicate by far the greatest variation, ranging all the way from the low of 7,000 pounds for a pay-load in Texas to a high of 120,000 pounds gross weight in Rhode Island.

The Texas law is particularly interesting in that the limit of 7,000 pounds is raised to 14,000 when the vehicle is transporting property to or from the nearest practicable common carrier.

The gross weight restrictions in adjoining states are particularly interesting. Kentucky, for example, permits 18,000 pounds gross weight upon its highways, while Illinois allows 72,000 pounds. Nebraska provides for a 48,000-pound maximum as compared with 30,000 pounds for South Dakota; Louisiana permits a 14,000-pound net load, Mississippi 30,000 pounds maximum. Rhode Island allows 120,000 pounds, as compared with Connecticut, which permits but 40,000 pounds.

Some states have erected or authorized the erection of tangible barriers in the form of ports of entry at the state borders, or by means of highway checking stations.

Motor vehicle ports of entry provisions can be classified as follows: The first class includes states having statutes which specifically authorize ports of entry. Kansas, Nebraska, Nevada, and New Mexico are of this type. California, Missouri, and Tennessee also have such specific legislation, but, at present, are not operating ports



of entry. Delaware makes specific provision for ports of entry, but provides that the law shall not become operative until similar laws are enacted by at least two bordering states.

The second class includes those states which set up ports of entry under authority of provisions governing highway police or other enforcing agencies. These states include Colorado, Idaho, Montana, South Dakota, Texas, and Oregon.

Kansas and New Mexico are good examples of states which have actual ports of entry in operation by virtue of direct statutory authority. The Kansas law, first of such laws to be enacted, requires all trucks to enter the state on designated highways and stop at the port of entry stations. There they receive clearance certificates after inspection of equipment, payment of ton-mile tax levied by the state, and after meeting certain insurance requirements. The New Mexico law requires every motor carrier, common, contract, or otherwise, to register at some port of entry, to be inspected, and to secure permission before entering the state. Clearance certificates are issued only after the truck's size, weight, and equipment are approved, all taxes are paid, and evidence is given that sufficient liability insurance is carried with a registered New Mexico company.

These ports of entry and checking stations constitute a significant exercise of the state's "police" powers, since here the out-of-state vehicle is compelled to stop and be subjected to a rigid inspection in order to insure full compliance with the state's laws concerning registration, payment of taxes, size and weight restrictions, equipment requirements, and any other regulations that may be imposed by the state.

Important is also the fact that the powers of exclusion have led the states to use the established ports of entry as a method of enforcing their inspection and quarantine laws.

California provides for quarantine stations at its borders for the purpose of agricultural and personal baggage inspections and empowers the State Board of Equalization to require liquor shipments in interstate commerce to be checked in and out of the State, while Kansas requires that all liquor entering the State in motor vehicles must enter and exit through an established port of entry or exit.

Highway Barriers Between States Would Hamper National Defense

"If this country is to have a uniform program of preparedness there can be no such thing as highway barriers between the states," says Honorable Wilburn Cartwright, Member of Congress from Oklahoma and Chairman of the House Committee on Roads. "This is no time for establishing or maintaining ports of entry between neighboring commonwealths. How can we move produce, materials, and other necessities of a great nation if our own states are surrounded by walls, if motor vehicles must halt their much-needed loads at state lines to be checked for weight and length, and perhaps delayed or refused admittance?

"The fields of the south and west must move crops to the homes and factories of the north and east. Finished goods may have to be rushed from one section of the land to another. If they travel by motor truck, they must not be halted or hindered by these restrictions that have sprung up in the last few years. There was no such thing as a state highway barrier in 1917 when Federal aid in highway construction began. In building our defenses to keep out of future conflicts, we must have uniformity of rules and regulations governing interstate traffic within our own 48 states.

"Today there are 48,492 communities in this nation served only by motor vehicles. These towns and hamlets are vital to American life, for they represent a population of 7,844,509—as many people as are in the entire State of Illinois, and two and one-half times the whole population of Norway.

"These miles of highways which connect our farms and factories, pass through our villages and cities, crossing state lines on the way to markets, must be kept open free from barriers for the commerce of this nation. It is essential to our national unity."

Standards for Canned Apricots, Cherries, and Pears Formulated

Regulations for canned apricots, cherries, and pears have been established and are being promulgated by the U. S. Department of Agriculture under the Federal Food, Drug, and Cosmetic Act. The regulations include definitions and standards of identity, quality, and fill of container. They are based on evidence received at public hearings during the past year, and were filed January 8 for publication, becoming effective 90 days after that date.

Revision of Federal Standards For Casein Paints Is Announced[1]

"THE Government looks at casein paints" might well be the title of revised Federal Specification TT-P-23A, soon to be issued. For the new specification marks another forward stride toward closer definition of standards for a type of coating that is still somewhat loosely called "cold-water" paint.

For years such paints were described by rather general analytical terms which bore only a vague relationship to actual performance standards. Just as one might call an oil paint which is thinned with turpentine a "turpentine" paint, any paint for which water was the principal vehicle or thinner (*e.g.*, whitewash, or calcimine made with glue and whiting) was, in the past, classed as a "cold-water" paint. The new Government specification imposes performance requirements which, in effect, can be met only by those paints in which casein or other protein is the binder, and which contain pigments of high opacity.[2]

Casein paints have been on the market for a number of years. They are now available in both powder and semi-paste forms. The powder paints are usually mixed on the job in the proportion of 8 to 10 pounds of powder with one gallon of water. Casein paste paints average about 15 pounds to the gallon of paste which, when thinned with water, will yield at least 1½ gallons of ready-to-use paint.

Casein is obtained from the curd of soured milk. Twenty-six gallons of cow's milk will produce about 8.8 pounds of butter and 6.8 pounds of casein. Most of the early casein paints were made by mixing casein and water, with whiting as the base pigment. But these paints fell far short of the many requirements of any good coating material. Primarily, they had little or no hiding power when freshly applied, which made it difficult for the painter to determine how adequately he was covering the surface.

Today, pigments of high opacity are in general use. And the types of pigments that are employed by the paint manufacturer are quite important, for they influence the hiding power and coverage of the paint, as well as its whiteness, texture, and stability. So does the choice of other raw materials. For example, many manufacturers emulsify the casein with small amounts of oils and resins to plasticize the finished paints and to obtain certain other desirable characteristics.

Determining the hiding power of casein paint with a phototronic cell reflectometer

Contrast ratios of a series of paint films of varying thickness brushed out over black and white hiding charts are measured. Contrast ratio requirements are given in the Federal Specification.

Special Grades Recognized

The development of special grades of Zinc Sulfide pigments has enabled manufacturers to produce casein paints that give maximum coverage and whiteness, and still keep the cost of their products within reasonable bounds. Recognition of the fact that the hiding power of Zinc Sulfide pigments may vary, and that some grades are more suitable than others, appears in the new Government Specification which states:

"It is well known that lithopone of the same zinc sulfide content can have widely varying hiding powers. Dry opacity tests . . . have shown that 3.5 quarts of a certain paste will obscure a

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[1]Abstracted from *Paint Progress*, published by the New Jersey Zinc Company.

[2]Another class of paints—the resin emulsion paints—also employs water as the thinner and will meet high performance standards. These paints are, however, covered by a separate Government specification.

background to the same degree as 4.25 quarts of another paste, even though both have the same zinc sulfide and total solids content. The choice of inerts also has some effect on the dry opacity."

Zinc Sulfide pigments recently developed . . . have played an important part in making it possible to produce paste paints with a superior texture. Likewise, powder casein paints based upon these same pigments are available which yield, after thorough stirring, a smooth creamy mixture that is free from any lumps. Other desirable characteristics that casein paints should possess are high-lighted in the revised Federal Specification. This specification will cover the purchase of dry powder and paste paints for interior use, in light tints and white, and will supersede an older specification TT-P23, dated December 18, 1935.

When casein paints were first introduced, their rapid drying, high coverage, economy of application and excellent brightness led many users to conclude that they were "all-purpose" paints and to ignore, entirely, ordinary good painting practices. However, consistent education on the part of manufacturers has clearly outlined the chief "do's and don'ts" of casein paint application and maintenance.

Manufacturers of casein paints differentiate, for example, between "washability" and "scrubability," pointing out that they do not recommend casein paints for surfaces which may require frequent scrubbing, or for surfaces that are persistently damp, or for kitchens and bathrooms that are subject to excessive humidity. Since an aqueous type of solvent is used, casein paints should not be applied over calcimine (which usually contains glue and is therefore softened by water).

Where variable suction of plaster wall and ceiling surfaces may be encountered, it is advisable, according to Federal Specification TT-P23A, "to apply an initial priming and sealing coat. . . . Such sealers are obtainable in both water and oil-base types."

Western Coast Visit Will Stress Cooperation on Safety Codes

A trip to the West Coast is being undertaken this month by Cyril Ainsworth, Assistant Secretary of the American Standards Association, for the Division of Labor Standards of the U. S. Department of Labor and for the purpose of promoting better understanding of the work of the American Standards Association. Mr. Ainsworth will meet with industrial safety engineers and state officials in California, Colorado, Kansas, Illinois, Minnesota, Montana, North Dakota, Oregon, Utah, and Washington. He is a member of the Advisory Committee on Safety and Health of the Division of Labor Standards and will make the trip in that capacity as well as in the capacity of ASA Assistant Secretary.

The western states have found it difficult to cooperate effectively in the safety code work of the American Standards Association because of the long distances to be traveled to attend committee meetings. Recently, however, several of the state industrial commissions and departments of labor have attempted to keep more closely in touch with the national safety work through the Western Safety Congress and an informal committee which they have set up to study standards being developed by ASA committees and to offer comments and criticisms on draft standards. Mr. Ainsworth's trip is expected to bring about a closer understanding and cooperation in making use of American Standard safety codes in state safety regulations.

New Method for Determining Thickness of Enamel Coat

A new method which is expected to be important in preparing specifications and in testing enamel-coated products has been developed by L. Shartsis and W. N. Harrison of the National Bureau of Standards.

This new method is important because it is not possible, by a mere determination of the total enamel thickness, to discover how heavy a coating of acid-resistant enamel has been applied to the product, the National Bureau of Standards reports. This is due to the fact that in applying porcelain enamel to sheet iron by the wet process, a non-acid-resistant coating is first applied over the ground coat and this is followed by an acid-resistant coating when required. A knowledge of the thickness of the acid-resistant coating is not only important for specification and inspection purposes but also to assist the manufacturer in discovering and rectifying any undesirable variations in the thickness of the acid-resisting enamel.

In order to test the accuracy of the newly developed method, specimens were prepared on which acid-resistant enamels of known specific gravity were applied in known weights per unit area. Thicknesses determined by the method checked with the computed thicknesses, usually within 0.0005 inch.

While designed primarily for wet-process enamels, the method can also be used on dry-process enamels, according to the announcement by the National Bureau of Standards.

Leather Information Obtainable From Publications on New List

The National Bureau of Standards has compiled a list of publications prepared by members of the Bureau staff on the subject of leather. Some of these were printed in the regular series of publications of the Bureau and others in the various scientific and technical journals. Copies can usually be consulted at libraries in the larger cities of the United States; many may be purchased from the Government Printing Office.

The list is in the form of a Letter Circular, LC-577, and may be procured without charge by writing to the National Bureau of Standards, Washington, D. C.

The articles and reports listed include the following of special interest to persons concerned with leather specifications and methods of testing leather:

The probable error in the measurement of the tensile strength of heavy leather. John Beek, Jr. (1937)*.

Laboratory apparatus and method for determining the resistance of sole leather to abrasion. E. L. Wallace. (1937).

Methods for measuring physical properties of leather and method of preparing samples of leather for analysis. W. E. Emley. (1937).

Shoe constructions. R. C. Bowker. (1938) C419 10¢ (Obtainable from the Superintendent of Documents, Washington, D. C.)

Annual Report of Committee on Standardization of Physical Tests of Leather. Warren E. Emley. (1938)*.

Apparatus for testing coated fabrics. R. C. Bowker. Rayon Textile Monthly, Vol. 28, p. 57, Jan. 1937.

In addition to the papers and reports, the National Bureau of Standards has also issued a Commercial Standard, a Simplified Practice Recommendation, and Federal Specifications on leather and related subjects. These standards, which may be ordered from the Superintendent of Documents, Washington, D. C., at the price indicated, are as follows:

Commercial Standard

Bag, case, and strap leather. (Thickness).	CS34-31	5¢

Simplified Practice Recommendation

Braided shoe laces. (Lengths).	R168-37	5¢

Federal Specifications

Leather; bag.	KK-L-151	5¢
Leather; hydraulic-packing (vegetable tanned).	KK-L-181	5¢
Leather; lace.	KK-L-201	5¢
Leather; rigging.	KK-L-241	5¢
Leather; sole, vegetable-tanned.	KK-L-261a	5¢
Leather; upholstery.	KK-L-291	5¢
Cases; brief, leather.	KK-L-121	5¢
Leather; case.	KK-L-166	5¢
Leather; strap, black and russet.	KK-L-271	5¢
Envelopes; leather.	KK-E-561	5¢
Aprons; leather, blacksmiths'.	KK-A-606	5¢
Skins; chamois.	KK-S-416	5¢
Holsters; pistol, leather.	KK-H-566	5¢
Leather; harness, black and russet.	KK-L-171	5¢
Bags; hand, leather.	KK-B-50	5¢
Belts; linemen's, safety, leather.	KK-B-151	10¢
Belting; flat, leather, vegetable-tanned. (Supersedes KK-L-161)	KK-B-201	5¢
Welting; leather, shoe.	KK-W-231	5¢

*Obtainable from Leather Section, National Bureau of Standards, Washington, D. C.

Underwriters Publish Booklet Explaining Building Codes

"Sooner or later, in the practice of his chosen profession, the structural engineer or the architect —in fact any one concerned with building construction—is confronted by a set of rules and regulations constituting the building code of his city. The reasons for some of these regulations, such as those on structural strength and stability, are usually apparent. For others the underlying aims may not be as obvious."

This is the first paragraph of a new booklet, *Building Codes, Their Scope and Aims*, published by the National Board of Fire Underwriters.

The pamphlet gives some of the reasons for building code requirements. It discusses the early history of building codes, the use of masonry walls as fire stops, how windows need protection, roofs, height as a factor in fires, how large areas make large fires, how to reduce fire areas in buildings, stairways and elevator shafts and other vertical openings, fireproof construction, equipment to extinguish fires, and enforcement as a vital need.

Copies can be obtained without charge from the National Board of Fire Underwriters, 85 John Street, New York.

New Foreign Standards Received by ASA Library

The Library of the American Standards Association has recently received the following standards from foreign standardizing bodies.

France

Produits Siderurgiques
Essais des fils de fer ou d'acier (A1-20-1940)
Revetements de zinc et d'etain sur fils de fer ou d'acier A1-21-1940
Avant-propos relatif aux Fascicules A2-1, A2-2, A2-51, A2-52, A2-53
Blooms et billettes d'usage courant en acier au carbone A2-1-1939
Largets d'usage courant en acier au carbone A2-2-1939
Definition des demi-produits A2-3-1939
Indices normaux de recuperation A2-5-1940
Barres laminees d'usage courant en acier au carbone A2-51-1939
Profiles d'usage courant en acier au carbone A2-52-1939
Larges plats d'usage courant en acier au carbone A2-53-1939
Barres laminees rondes en acier au carbone, pour rivets A2-54-1940
Barres laminees rondes pour boulons, vis et tirefonds A2-55-1940
Barres rondes en acier speciales pour beton arme A2-57G Instruction pour la reception des barres rondes en acier, speciales pour beton arme A2-57G Annexe 1
Normalisation des Qualites des Depots Electrolytiques. Caracteristiques dimensionnelles des nickelages et chromages A4-1-1939
Depots Electrolytiques. Methodes de controle des revetements electrolytiques de nickel et de chrome A4-2-1940
Regles Techniques relatives a la Fourniture des Appareils Electriques pour Soudure a l'Arc A5-1-1939
Produits Metallurgiques
Alliages de fonderie a base de cuivre
Definitions, Designations, Classification, Types Normaux (A31-1-1939)
Essais relatifs aux produits moules (A31-2-1939)
Methodes d'essais relatifs aux produits moules (A31-2-1939 Annexe)
Pieces moulees brutes (A31-3-1939)
Planches, bandes, flans et feuilles en laiton (A31-6-1940)
Agregats. Granulometrie (B3-11-1939)
Bois. Terminologie des bois d'oeuvre. Exploitation et Sciage (B5-13-1940) Dimensions, essences, choix des bois de guerre (Baraquements, caisses, bois du genie) (B5-20G)
Petrole et ses Derives. Huiles de graissage. Determination du residu de carbone conradson (B6-35-1940) Huiles combustibles. Teneur en sediments (B6-43-1940)

Great Britain

Cables and flexible cords for electrical equipment of ships, including electrical propulsion (883-1940)
Building limes (890-1940)
Method for direct reading hardness testing; Rockwell Principle (891-1940)
Glossary of highway engineering terms (892-1940)
Method of testing dust extraction plant and the emission of solids for chimneys of electric power stations (893-1940)
Determination of the flow and drop points of fats and allied substances; apparatus and method of use (894-1940)
Methods for the microbiological examination of butter (895-1940)
Dimensions of stretchers, stretcher carriers in ambulances and hospital trolleys (896-1940)

Italy

Hose unions for extinguishing fire and other uses (802-813)
Keys for hose unions UNI 804 and UNI 811 (814)
Steel rolled hot sheets; qualities, prescriptions, tests (815-816)
Steel rolled sheets; tolerances on size and weight (817-818)
Aluminum bars for smelting house; qualities, prescriptions (819-820)
Steel rolled hot sections; angle with equal sides (821-823)
Steel rolled hot sections; angle with unequal sides (824-827)
Steel rolled hot regular half-round bars (828)
Steel rolled hot irregular half-round bars (829)

The above standards are published in the language of the country from which they were received. French translations of the Italian standards were also received by the ASA Library.

NFPA Publishes Sprinkler Standards

Standards for installation of sprinkler equipment and for care and maintenance of sprinkler systems were adopted by the National Fire Protection Association at its meeting May 7-11. The standards for installation give information concerning preparation of building, water supplies and fire department connections, piping, valves and fittings, location and spacing of sprinklers, alarms, non-freezing solutions, dry-pipe systems, thermostatically operated systems, and outside sprinklers for protection against exposure fires. The standards for care and maintenance cover the responsibility of the owner and discuss details of maintenance.

The standards are published together in a pamphlet, *Automatic Sprinklers*, which is available from the National Fire Protection Association, 60 Batterymarch Street, Boston, Mass.

ASA Committee on Plumbing Equipment Considers Two New Draft Standards

DRAFTS of two proposed standards for plumbing equipment are now before the ASA Sectional Committee on Minimum Requirements for Plumbing and Standardization of Plumbing Equipment (A40). The first of these proposed standards, on soldered-joint fittings, is the fifth draft prepared by Subcommittee 11 on Soldered Fittings for Tubing and is the culmination of work started in October, 1936.

The second, on Air Gaps in Plumbing Systems, was developed by Subcommittee 12 and is now being circulated for comment and criticism. The present draft contains two new sections, one covering water inlets to tanks having overflows, and the other covering sanitary drinking fountains.

The proposed standard on air gaps represents an attempt to develop a specification which may be policed in the field without complicated measurements or the necessity of applying involved formulas. The draft also attempts to standardize terminology in this field where such standards are greatly needed, the subcommittee explains. The dimensions presented are based on laboratory work carried out by F. M. Dawson, dean of the College of Engineering, University of Iowa; R. B. Hunter, National Bureau of Standards; and R. H. Zinkil, research engineer of the Crane Company.

The work of this ASA Committee on Plumbing Equipment is sponsored jointly by the American Society of Sanitary Engineering and The American Society of Mechanical Engineers.

Copies of these drafts may be obtained from either The American Society of Mechanical Engineers or the American Standards Association at 29 West 39 Street, New York.

Members of New Jersey Committee on Welding

A special committee appointed to analyze New Jersey's welding problems as a basis for the development of a set of state welding standards, as reported in INDUSTRIAL STANDARDIZATION, July, has the following membership:

F. C. Fyke, Materials Engineer, Standard Oil Development Company
J. H. Love, Personnel Director, Federal Shipbuilding and Dry Dock Company
H. K. Dimelow, Superintendent Kellogg Company, Jersey City
B. L. Vosburgh, M.D., Medical Director, General Electric Company.

Two Coal-Tar Colors Added to Approved List

Two new coal-tar colors have been added to the list of those found harmless, and suitable for use in drugs and cosmetics, in amendments to the regulations for the listing and certification of coal-tar colors just announced by the U. S. Department of Agriculture. These colors are D&C Green No. 8 and D&C Red No. 39, previously known under the names Pyranine Concentrated and Alba Red. The amendments also shorten the title of the regulations to "Coal-Tar Color Regulations."

The regulations come under the Federal Food, Drug, and Cosmetic Act and were published in the Federal Register of May 9, 1939. The amendments appear in the Federal Register of May 10, 1940, which can be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., at 10 cents a copy.

Bureau of Standards Circulates Proposed Motor Lamp Standards

Nine recommended Commercial Standards for Lamps and Signal Equipment for Vehicles (After Market) are now being considered by the industry for adoption. They cover:

Electric Direction Signal Systems (TS-2815)
Adverse Weather Lamps (TS-2816)
Inner-Controlled Spotlamps (TS-2817)
Clearance, Marker, and Identification Lamps (TS-2818)
Electric Tail Lamps (TS-2819)
Electric License-Plate Lamps (TS-2820)
Electric Stop Lamps (TS-2821)
Red Electric Warning Lanterns (TS-2822)
Liquid Burning Flares (TS-2823)

The proposed standards, which have been circulated to producers, distributors, testing laboratories, regulatory officials, and users of lamps and signal equipment by the Division of Trade Standards of the National Bureau of Standards, were proposed by the Safety Equipment Manufacturers Association. If accepted, they will be promulgated by the National Bureau of Standards.

Newly Approved and Published Government Specifications

The American Standards Association has been notified of the approval and publication of the following Federal specifications, which become effective on the date listed after the title.

Acoustical-units; prefabricated. (superseding SS-P-686 & SS-T-302) SS-A-118 August 15, 1940

Aluminum-alloy (A1-17), (Aluminum-copper magnesium-manganese); plates, sheets, and strips. (superseding QQ-A-353) QQ-A-353a August 15, 1940

Aluminum-alloy (A1-24), (Aluminum-copper magnesium (1.5 per cent)—manganese); plates, sheets, and strips. (new) QQ-A-355 August 15, 1940

Awls. (new) CGG-A-891 August 15, 1940

Beds; hospital. Amendment-4 AA-B-201 June 15, 1940

Belting; conveyor (rubber). Amendment-3 ZZ-B-206 August 15,1940

Boards; bread and pastry. (new) LLL-B-551 August 15, 1940

Boards; carving. (new) LLL-B-561 August 15, 1940

Boards; chopping. (new) LLL-B-568 August 15, 1940

Boxes; wood, wirebound. (superseding NN-B-631) NN-B-631a July 15, 1940

Brushes; stencil (flag ends cut). (superseding H-B-621) H-B-621a August 15, 1940

Cookers; steam-pressure. (new) RR-C-561 August 15, 1940

Clock-systems; electric. (superseding W-C-471) W-C-471a August 15, 1940

Cushions, chair; sponge-rubber. (new) ZZ-C-766 August 15, 1940

Duck; cotton, plied-filling-yarns and single-yarns (flat-duck). Amendment-2 CCC-D-761 August 15, 1940

Lard substitutes. Amendment-2 EE-L-101a July 1, 1940

Machines; chopping (grinding), meat. (new) OO-M-18 July 15, 1940

Machines, vegetable-peeling; electrically-operated. (new) OO-M-106 July 15, 1940

Matches; safety (full-size, in boxes). (superseding EE-M-101a) EE-M-101b August 15, 1940

Nickel; (for) remelting. Amendment-1 QQ-N-301 August 15, 1940

Pans, dish; corrosion-resisting-steel. Amendment-1 RR-P-66 August 15, 1940

Packing; asbestos, sheet, compressed. Amendment-2 HH-P-46 August 15, 1940

Paint, blue-lead-base; basic sulfate, linseed-oil, ready-mixed. TT-P-20 August 15, 1940

Paint, white-lead-base; basic-carbonate, ready-mixed, light-tints and white. (new) TT-P-156 June 15, 1940

Paulins and covers; duck (tarpaulins). (new) K-P-146 September 1, 1940

Pipe; wrought-iron, welded, black and zinc-coated. (superseding WW-P-441) WW-P-441a July 15, 1940

Pots; marking (ink). (new) RR-P-571 August 15, 1940

Putty and elastic-compound; (for) metal-sash-glazing. (new) TT-P-781 August 15, 1940

Refrigerators; electric, portable. (new) AA-R-211 July 15, 1940

Reinforcements; gummed (cloth). (new) UU-R-196 August 15, 1940

Rope; wire. Amendment-3 RR-R-571 July 15, 1940

Tabs, index; gummed (cloth and paper). (new) UU-T-54 August 15, 1940

Tape; friction. (superseding HH-T-101) HH-T-101a August 15, 1940

Tape; rubber, insulating. (superseding HH-T-111) HH-T-111a August 15, 1940

Tubes; automobile and motor-cycle, inner. Amendment-1 ZZ-T-721b August 15, 1940

Tubing, aluminum (A1-2); round seamless. (superseding WW-T-783) WW-T-783a August 15, 1940

Tubing, aluminum-alloy (A1-53), (aluminum-magnesium-silicon-chromium); round, seamless. (new) WW-T-790 August 15, 1940

Tubing; rubber. (superseding ZZ-T-831) ZZ-T-831a August 15, 1940

Vinegar. Amendment-3 Z-V-401 August 15, 1940

The above specifications and amendments are for sale at five cents each from the Superintendent of Documents, Government Printing Office, Washington, D. C.

Ice Cream Carton to Fit Refrigerator Ice Tray

Standard dimensions for a pint ice cream carton to fit ice trays in household refrigerators have been established in the revised Simplified Practice Recommendation R120, Ice Cream Brick Molds and Cartons, just accepted by the industry and which becomes effective June 30. The recommended size for the new type of carton is 1-17/32 by 3½ by 5½ inches.

The recommendation also establishes a simplified schedule of dimensions for the two-gallon mold and for a pint and quart carton, as well as for the linerless, machine-filled type of carton in the pint and quart size.

Until printed copies are available, mimeographed copies of this Simplified Practice Recommendation may be obtained without charge from the Division of Simplified Practice, National Bureau of Standards, Washington, D. C.

Eight New Standards Are Given In 1940 SAE Handbook

Ten sections are required to present all the standards and other data in the new *SAE Handbook*, just published by the Society of Automotive Engineers. These sections cover: Aircraft parts, materials and codes; Units, parts and fittings; Materials, processed; Materials, fabricated; Screws, bolts and washers; Tests, ratings and codes; Transportation and maintenance; Tools and production equipment; Nomenclature and definitions; and Miscellaneous specifications.

Eight new standards are given for the first time in the new edition, including an aircraft engine test code; aircraft material specifications; extra light, radial bearings; tap drills for bolts and nuts; sealed beam headlamp units; vibration testing machine for lamps; viscosity ranges (equivalents) for lubrication; kingpin, trailer fifth wheel; and magnesium alloys. Twenty-nine standards have been revised and the new editions published in the 1940 *Handbook* for the first time.

"Standardization has been a fundamental branch of the Society of Automotive Engineers' activities since the earliest days of its history," the *Handbook* explains. "Its pioneer members fully appreciated the great advantage that would accrue to the industry by unification and stabilization through standardization of the then established practices and of the rapidly developing new practices as they were accepted by the industry and became established.

"It is the policy of the Society to refrain from attempting standardization of projects still in a fluid or development stage, and to undertake such stabilization only when the project has been adequately accepted and adopted in practice by industry. By adopting this policy originally and adhering to it and by consistently avoiding overstandardization, stagnation of development is avoided. On the other hand progress in practice is followed by revision and extension of standards to keep pace with advancement in industry."

The SAE has cooperated in the work of the American Standards Association on both national and international projects for many years. It is acting as sponsor for ten sectional committees and is represented on 28 others.

ASA Standards Activities

Approved Standards Available Since Publication of Our June Issue

Safety Rules for Radio Installations of the National Electrical Safety Code, Part 5 American Standard C2.5-1940 10¢

Methods of Testing Molded Materials Used for Electrical Insulation American Standard C59.1-1940 25¢

Requirements for Installation of Conversion Burners in House Heating and Water Heating Appliances American Standard Z21.8-1940 50¢

Specifications for Soft or Annealed Copper Wire, American Standard H4.1-1940 25¢

Specifications for Hard-Drawn Copper Wire, American Standard H4.2-1940 25¢

Specifications for Medium-Hard-Drawn Copper Wire, American Standard H4.3-1940 25¢

Tinned Soft or Annealed Copper Wire for Electrical Purposes, American Standard H4.4-1940 25¢

Bronze Trolley Wire, American Standard H4.5-1940 25¢

Copper Trolley Wire, American Standard H4.6-1940 25¢

Hot-Rolled Copper Rods for Electrical Purposes, American Standard H4.7-1940 25¢

Standards Now Being Considered by Standards Council for ASA Approval

Keyways for Holes in Gears B6.4

Standards for Felt

Approval Requirements for Hotel and Restaurant Deep Fat Fryers Z21.27

Approval Requirements for Hotel and Restaurant Ranges and Unit Broilers Z21.3

Requirements for Central Heating Gas Appliances (Revision to Z21.13-1938)

Twist Drills, Straight Shank, Proposed American Standard B5.12

Commercial Standard for Book Cloths, Buckrams, and Impregnated Fabrics for Bookbinding Purposes Except Library Bindings CS 57-36

Proposed American Recommended Practice for the Use of Explosives in Anthracite Mines M27

Commercial Standards for Sun Glass Lenses (CS 78-39; CS 79-39)

Methods of Testing and Tolerances for Tubular Sleeving and Braids (ASTM D 354-36) L13

Electric Fences of the National Electrical Safety Code, Part 6

Rules for Rounding Off Numerical Values Z25

Protection of Structures Containing Inflammable Liquids and Gases—Part 3 of Code for Protection Against Lightning (From status as American Tentative Standard to American Standard) C5, Part 3

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